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ABSTRACT

Universities in Ontario, Canada, and the United States were compared using data from the U.S. 1995 Integrated Postsecondary Education Data System and a database based on Statistics Canada information. On average, universities in Ontario would have to hire 35.9% more full-time faculty in order to achieve the student-faculty ratio of U.S. peers. Data on part-time faculty were too incomplete to allow comparison, but the numbers of part-time faculty members are thought to be similar in both countries. On average, Ontario lags behind the United States in funding per student, and institutions in the United States receive 46.8% more state funding per full-time equivalent enrollment and 37.8% more revenue in total than Ontario institutions. U.S. institutions also outspend their Ontario counterparts, especially in the areas of student services, academic support, and institutional support. In many cases, comparisons were also drawn with peer institutions in the Great Lakes area of the Untied States. Among Great Lakes peers, the differences in spending are even more marked. The evidence is clear that states in the United States are investing in higher education. Out of 60 jurisdictions in North American, Ontario ranked 58th in terms of percentage change in funding support, although for the period from 1996-1997 to 1999-2000, Ontario ranked 50th in finding increases. The Ontario government has started to reinvest in universities, but efforts must continue at an accelerated pace to ensure a strong and competitive public higher education environment. (SLD)

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COMPARING ONTARIO & AMERICAN PUBLIC UNIVERSITIES

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Comparing Ontario and American Public Universities

Introduction

Over the past decade, efforts have been made to develop a better understanding of the public higher education systems in the United States with the goal of providing some benchmarks for Ontario. The following information builds on these efforts and provides further methodological improvements to ensure, as much as possible, that the comparisons are on an "apples-to-apples" basis. The actual methodology is described in Part B.

Part A - Results

Student-Faculty Ratio

The results of the comparisons with a peer group of public universities in the United States show that in 1998 on average the Ontario university system would need to hire 35.9% more full-time faculty to achieve the student-faculty ratio of its peers. To attain the same ratio as in the Great Lakes states, an area that shares a similar demographic and industrial base, Ontario would have to hire 32.1% more full-time faculty. Data on part-time faculty in the U.S. and Canada is too incomplete to permit a comparison of Full-Time Equivalent (FTE) enrolment to FTE faculty, but the proportion of part-time faculty in U.S. institutions is likely to be similar to that in Ontario. Even if the levels are dissimilar, Ontario universities would have to have a substantially higher proportion of part-time faculty members to make up the gap.

Table 1: Student Faculty Ratio (1998-99)[1]

Jurisdiction	FTE Enrolment	Faculty	Student-Faculty Ratio	% more faculty Ontario would need to achieve level
Ontario[2]	248,201	8,737	28.4	-
All Peers	2,552,728	122,232	20.9	35.9%
Great Lakes	571,820	26,594	21.5	32.1%

Funding per Student

The peer group comparisons show that on average Ontario lags behind the United States in funding per student. When adjusted for Purchasing Power Parity, the peers receive 46.8% more state funding per FTE and 37.8% more revenue in total than Ontario institutions. Among the Great Lakes peers, this disparity is 35.8% and 40.9% respectively. State funding; federal government grants and contracts; and provincial government grants and contracts constitute 64% of revenue for all peers and 58% for Great Lakes peers versus 53% in Ontario.

Table 2a: Revenues per FTE Enrolment (1998-99)

	FTE Enrolment	Tuition & Fees	Prov/State Govt Funding	Fed Govt Grants & Contracts	Prov/State Govt Grants & Contracts	Priv Gifts, Grants & Contracts	Endowment Income	Total
Ontario	248,201	4,874	6,620	1,440	564	2,244	535	16,277
All Peers	2,552,728	5,927	9,720	3,793	788	1,952	248	22,428
% difference		*21.6%*	*46.8%*	*163.4%*	*39.7%*	*-13.0%*	*-53.6%*	*37.8%*
Great Lakes	571,820	7,164	8,987	3,729	625	2,214	210	22,930
% difference		*47.0%*	*35.8%*	*159.0%*	*10.8%*	*-1.3%*	*-60.7%*	*40.9%*

[1] Ontario numbers exclude medical faculty to make them comparable with U.S. IPEDS data. For consistency, four peer institutions were excluded because they did not report revenues or expenses: Moorhead State University, Rutgers University-Camden, Rutgers University-New Brunswick and the University of Colorado at Boulder.

[2] Excludes Dominicain and the Ontario College of Art & Design.

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Table 2b: Expenses per FTE Enrolment (1998-99)

	FTE Enrolment	Instruction & Research	Academic Support	Student Services	Institutional Support	Physical Plant	Scholarships & Bursaries	Library Acquisitions	Total
Ontario	248,021	$10,969	$1,233	$467	$1,107	$1,247	$680	$349	$16,051
All Peers	2,552,728	13,034	2,213	1,045	1,877	1,626	1,461	269	21,525
% difference		*18.8%*	*79.5%*	*123.8%*	*69.6%*	*30.4%*	*114.9%*	*-22.9%*	*34.1%*
Great Lakes	571,820	12,991	2,284	1,240	1,938	1,838	1,599	237	$22,127
% difference		*18.4%*	*85.2%*	*165.5%*	*75.1%*	*47.4%*	*135.1%*	*-32.1%*	*37.9%*

What do they do with this additional revenue? The data in Table 2b show that the U.S. peers outspent their Ontario counterparts by 34.1% overall, especially in the areas of Student Services (124% higher), Academic Support (80% higher), and Institutional Support (70% higher). Among the Great Lakes peers, the difference is even more marked at 37.9% overall and 166%, 85% and 75% in the subcategories. These three areas constitute 24% of expenditures for all peers and 25% for Great Lakes peers versus 17.5% for Ontario.

Trends in Provincial and State Funding

The preceding funding-per-student comparison reflects a snapshot in time. Figure 1 provides a five-year picture of provincial-state funding support to give an idea of trends in government support over a longer period. The evidence is clear that states in the U.S. are investing in higher education. We acknowledge that because the data set is different than that used in our peer group, the comparison might not be quite apples to apples, but the differences are of a magnitude that speak for themselves.

As Chart 1 shows, from 1995-96 to 1999-2000, provincial government funding for operating expenses in Ontario dropped by -8.4%. Out of 60 jurisdictions in North America, Ontario ranked 58th in terms of percentage change in funding support over the period. By comparison, state funding for colleges and universities in the 11 selected states rose by 33.6% over the same period. From 1996-97 to 1999-2000, the picture improves with Ontario funding increasing by 6.1% versus 23.3% in the 11 states, but the province still ranked only 50th. The Ontario government has started to re-invest in universities, but efforts must continue at an accelerated pace to ensure a strong and competitive public higher education environment.

Part B – Methodology

Developing an approach to comparing Ontario universities with public institutions in the U.S.

The study focused on four-year public universities with Carnegie classification baccalaureate or higher. Ontario and U.S. universities were assigned to one of two composite Carnegie Foundation groups:

- Research or Doctoral (RD) universities (nine of Ontario institutions)
- Master's or Bachelor's (MB) universities (eight of Ontario institutions)

Ontario and U.S. universities were also classified according to whether or not they grant medical degrees.

Data Sources

Degrees awarded data for U.S. universities were obtained from the 1995 Integrated Postsecondary Education Data System (IPEDS) published by the National Center for Education Statistics (NCES) of the U.S. Department of Education. The 1995 IPEDS database covers the academic year 1995-96.

Degrees-awarded data for Ontario universities were obtained from a database based on Statistics Canada information. Degrees awarded for the calendar year 1996 were used.

Data Fields

IPEDS degrees-awarded data is broken down into 40 fields of study and 10 types of degrees awarded (for a total of 800 fields) for each institution. To be compatible, the IPEDS fields were mapped onto the nine fields of study and five types of degrees-awarded used by Statscan. With totals, this amounts to 60 "discipline-degree" fields for each institution in the U.S. and Canada.

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Identification of Peer Universities
An algorithm was developed where, for each Ontario institution, the number of degrees awarded in each discipline/degree category was compared against the same data for U.S. institutions in its class. The relative differences in each of the 60 categories were summed to create a score. The lower the score, the more similar the two universities were deemed to be. This methodology thus finds institutions with similar enrolment sizes and discipline-degree profiles to ensure an apples-to-apples comparison.

In addition, two other restraints were put on the comparisons:

- Carnegie group – If an Ontario university was a research or doctoral university, its U.S. peers also had to be. If an Ontario university is a master's or bachelor's university, its U.S. peers also had to be.

- Medical degrees – If an Ontario university granted medical degrees, its U.S. peers also had to grant them. If an Ontario university did not grant medical degrees, its U.S. peers also could not.

See Figure 2 for a list of peer institutions.

Establishing Peer Groups
The top 10 peers were selected for each institution. For student-faculty ratios, data was aggregated from 170 U.S. universities that captures about 40% of all public four-year enrolments in the U.S., and was compared with the Ontario university system as a whole. Data was also calculated for all eight Great Lakes states and five additional states, based on the identified unique peers for each of those jurisdictions. The number of peers represented in each state varies from four in North Carolina and Michigan to 11 in California and 30 in the Great Lakes states. Groups with larger peers sets offer a stronger inferential relationship to Ontario, thus care would need to be taken when comparing individual states.

Student-Faculty Ratios
Student-faculty ratios were calculated for the peer groups based on the number of full-time equivalent students per full-time faculty member. Information on part-time faculty in the U.S. is not comparable so it was not used, but the proportion is assumed to be similar to that in Ontario. IPEDS data also excludes certain faculty members (notably clinical and preclinical medicine), so they were also removed from Statistics Canada data to make the numbers comparable.

Funding per Student
1998-99 IPEDS financial data was mapped to data from the Compendium published by the Council of Finance Officers (COFO) by comparing definitions supplied by each. It was not possible to use a previously accepted methodology devised by James McAllister in his paper *Financing Universities in North America: Can Ontario Compete?* (Council of Ontario Universities, 1988) because of changes to the way that COFO data was reported for 1998-99; however, results from the two methods were compared and found to be consistent.

Trends in Provincial and State Funding
U.S. data is from Grapevine, a national tax database for higher education maintained by Illinois State University (http://www.coe.ilstu.edu/grapevine/). It includes total state tax appropriations for the operating expenses of higher education including all universities, colleges, community colleges and state higher education agencies. Canadian data from 1989-90 to 1997-98 is from *Financial Statistics of Universities and Colleges*, published annually by the *Canadian Association of University Business Officers* (CAUBO). Data from 1998-99 and 1999-00 is derived from percentage changes reported by the Association of Universities and Colleges of Canada (AUCC), published in the May 1999 edition of *University Affairs*, plus information published in the *Ontario Public Accounts and Expenditure Estimates*. This data includes Canadian universities and their affiliates. While there is some mismatch between the kind of institutions aggregated in the U.S. and Canadian data, the results show a clear trend overall.

In the coming months, additional work will be undertaken to extend the peer group approach to the trends in provincial and state funding.

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Figure 1

Percent Change in Provincial and State Funding
for Operating Expenses of Postsecondary Education
Canadian Provinces and American States 1995-96 to 1999-2000

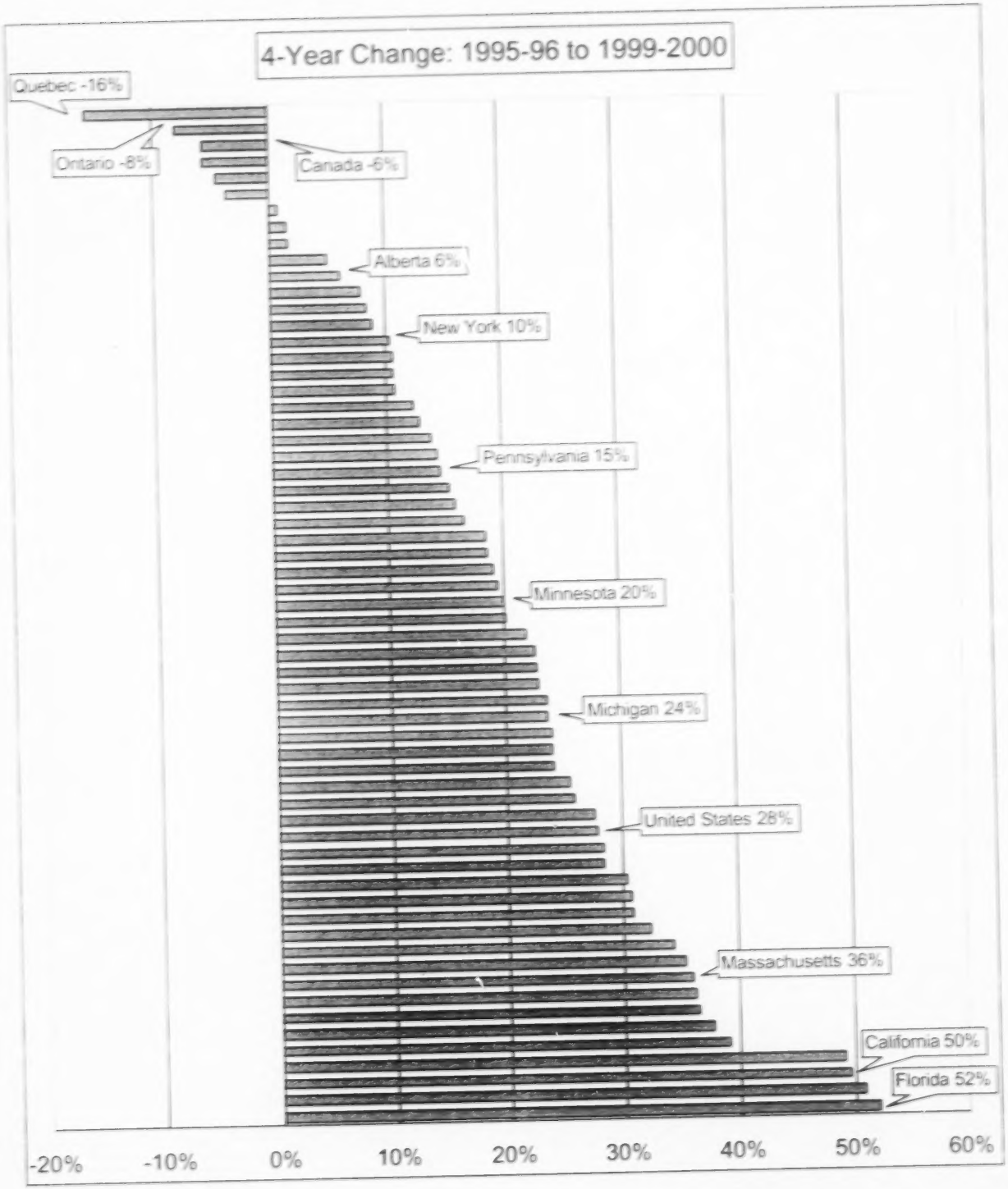

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Figure 2: Peer Institutions

Alabama State University
Appalachian State University
Arizona State University-Main Campus
Arizona State University-West
Arkansas Tech University
Auburn University Main Campus
Ball State University
Bloomsburg University of Pennsylvania
Bowling Green State University-Main Campus
California State Polytechnic University-Pomona
California State University-Chico
California State University-Los Angeles
California State University-Stanislaus
Central Connecticut State University
Central Missouri State University
Central Washington University
Clemson University
Coastal Carolina University
College of Charleston
Colorado State University
Eastern Connecticut State University
Eastern Illinois University
Eastern New Mexico University-Main Campus
Eastern Washington University
Ferris State University
Florida Atlantic University-Boca Raton
Florida State University
Georgia Southern University
Indiana University of Pennsylvania
Indiana University-Bloomington
James Madison University
Kansas State University
Kean University
Kennesaw State University
Lock Haven University of Pennsylvania
Louisiana State Univ & Ag & Mech & Hebert Law Ctr
Mankato State University
Mansfield University of Pennsylvania
Mary Washington College
Metropolitan State College
Miami University-Oxford
Michigan State University
Middle Tennessee State University
Moorhead State University
Ohio State University-Main Campus
Ohio University-Main Campus
Ramapo College of New Jersey
Rowan University
Rutgers University-Camden
Rutgers University-New Brunswick
Saint Cloud State University
Sam Houston State University
San Diego State University
Shippensburg University of Pennsylvania
Sonoma State University
Southeastern Oklahoma State University
Southern Illinois University-Carbondale
Southern Utah University
Southwest Missouri State University
Southwest Texas State University
SUNY at Albany
SUNY at Binghamton
SUNY at Stony Brook
SUNY College at Oneonta
SUNY College at Oswego
SUNY College at Plattsburgh
SUNY Empire State College
Temple University
Texas Tech University
The Richard Stockton College of New Jersey
The University of Texas at Arlington
Towson University
Truman State University
University of Alabama
University of Arizona
University of California-Berkeley
University of California-Irvine
University of California-Los Angeles
University of California-San Diego
University of California-Santa Barbara
University of California-Santa Cruz
University of Central Florida
University of Colorado at Boulder
University of Delaware
University of Florida
University of Georgia
University of Hawaii at Manoa
University of Illinois at Urbana
University of Iowa
University of Kentucky
University of Maryland-College Park
University of Massachusetts-Amherst
University of Massachusetts-Boston
University of Massachusetts-Dartmouth
University of Michigan-Ann Arbor
University of Minnesota-Twin Cities
University of Missouri-Columbia
University of Nebraska at Lincoln
University of Nevada-Las Vegas
University of New Hampshire-Main Campus
University of North Carolina at Chapel Hill
University of North Carolina at Charlotte
University of North Carolina-Wilmington
University of Northern Iowa
University of Oklahoma Norman Campus
University of Oregon
University of Rhode Island
University of South Carolina at Columbia
University of South Florida
University of Tennessee-Knoxville
University of Utah
University of Virginia-Main Campus
University of Washington
University of Wisconsin-Eau Claire
University of Wisconsin-Green Bay
University of Wisconsin-Madison
University of Wisconsin-Milwaukee
University of Wisconsin-Oshkosh
University of Wisconsin-Stevens Point
University of Wisconsin-Whitewater
Utah State University
Washington State University
Wayne State College
West Chester University of Pennsylvania
West Virginia University
Western Washington University
Winona State University
Youngstown State University

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